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ABSTRACT

This booklet examines the cost implications of reward-for-performance plans for teacher compensation. The growing acceptance of plans that recognize effective teaching with financial or other rewards is noted in the introduction, and some of the arguments against such plans are expressed. The first chapter reviews the origins and aims of the traditional single salary schedule and describes the kinds of modifications districts and states are making or proposing for the purpose of rewarding excellence. These plans include career ladders, multiple salary schedules, merit pay, extended contracts, and pay for extra work or work in critical subject areas. The second chapter discusses the factors affecting the costs of performance pay plans. In addition to the costs of the rewards themselves, administrators must consider the costs of planning the program and evaluating the teachers. It must also be realized that the costs of a program will include the costs associated with lowered morale and increased staff turnover if the program proves unsatisfactory to the teachers. In the third chapter, costs for two evaluation processes are compared and incorporated into simulations of merit pay and career ladder plans. The costs associated with extended contracts are also discussed. (PGD)

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The Costs of Performance Pay Systems

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COSTS

The Costs of Performance Pay Systems

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October 1984

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CONTENTS

INTRODUCTION

1. **THE SINGLE SALARY SCHEDULE AND NEW SYSTEMS OF PERFORMANCE PAY** 6
   - District Plans
   - State Plans

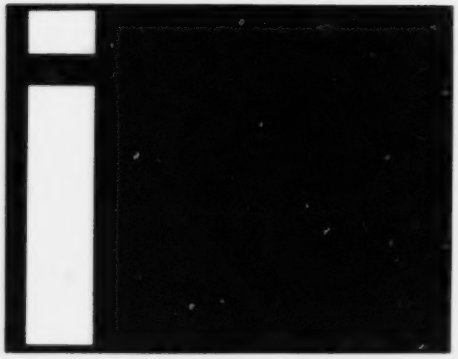
2. **COST FACTORS** 10
   - Planning
   - Participation Criteria
   - Evaluation Procedures
     - Start-Up Costs
     - Operational Costs
     - Costs of Administration
   - Reward Structures
     - Merit Pay
     - Career Ladders
     - Extended Contract

3. **COST SIMULATIONS** 14
   - Evaluation Processes
     - Evaluation Process "A"
     - Evaluation Process "B"
     - Long-Term Evaluation Costs
   - Merit Pay Model
   - Career Ladder Model
   - Extended Contracts

4. **CONCLUDING REMARKS** 21

REFERENCES 23

INTRODUCTION



Measures to enhance the quality of the teacher work force have received widespread attention in recent months. Policy makers have reviewed the selection of teachers, their training and certification, and the structure of the teaching profession. Perhaps most innovative has been the effort to change the way teachers are rewarded in order to attract better people to the profession, retain good teachers and motivate all teachers to work harder and better. Even the President of the United States has endorsed the notion of basing rewards for teachers on performance.

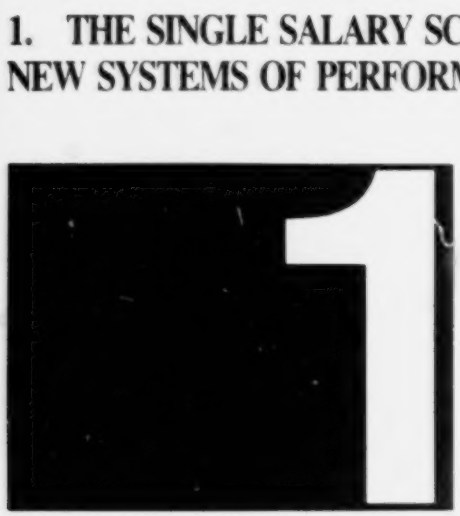
The idea that changing the reward system will improve teaching is not universally accepted, however. Professional organizations have, until recently, tended to oppose the reward-for-performance concept because **1.** they feel it would bring competition to a social system that is (or should be) collaborative, **2.** the methodology for determining superior performance has not been reliable and **3.** the goals in the educational hierarchy differ so greatly that conflicting messages are sent to teachers.

Given the decentralization of the education enterprise in the United States, an idea that is revolutionary in one area may be passe in another. Various school systems have tried merit pay during the last 100 years, for example. But merit pay systems have not always been successful and, in fact, the growth of the single salary schedule was in reaction to abuses that had appeared in certain merit systems. Nonetheless, some policy makers currently think that rewarding teachers on the basis of performance is an idea whose time has come again.

Researchers have begun to examine the issues raised by reward-for-performance systems. Palaich and Flannelly identify key decision points (e.g., deciding which characteristics of teachers should be measured and against which standards of performance) and offer suggestions for implementing these systems. Hatry and Greiner examine the eligibility, evaluation and reward structures of reward-for-performance plans and illustrate the pros and cons of choices made through case studies of district plans. Rosenholtz and Smylie relate the findings from research on effective teaching to the development of various reward-for-performance plans. Rosenholtz questions whether recent teacher compensation proposals are likely to solve the problems they are intended to solve. Undergirding these recent works is a vast literature on effective teaching, teacher motivation/satisfaction and teacher evaluation.

An issue of practical importance that has received relatively little attention, however, is how much reward-for-performance plans cost and, more specifically, how the structure of a plan influences its cost. To aid considerations of policy, this paper takes a preliminary look at the cost implications of reward-for-performance plans.

1. THE SINGLE SALARY SCHEDULE AND NEW SYSTEMS OF PERFORMANCE PAY



While it is sometimes convenient to think that the single salary schedule is an artifact of collective bargaining, there is actually a strong theoretical, as well as an empirical, underpinning for this method of compensation. Max Weber provided the theoretical underpinnings. His view was that rational decision making was best served by building a strong bureaucracy characterized by written rules, promotion based upon training and experience, a system of tenure and a lifetime commitment to government service. The single salary schedule is a logical outgrowth of the lifetime service concept where compensation is determined by training and experience. Empirically, the single salary schedule came as a result of political excesses in the late 19th and early 20th Centuries. While such excesses were not typical of school districts, the single salary schedule did eliminate school board decisions on teachers that often discriminated against females and minorities. By the 1920s, the "new" schedule was being touted as the innovation that would strengthen education throughout the country.

Critics of the current plight of American education have tended to emphasize the dysfunctions of the single salary schedule, most notably the absence of incentives for improved performance. Thus, what was hailed as innovation 50 years ago is now sometimes considered an impediment to education progress.

Now even the professional organizations are reexamining their positions on reward-for-performance plans. The former and current presidents of the National Education Association (NEA) have given qualified support to certain rewards for performance. Willard McGuire has said,

> **NEA will consider any fair and equitable salary proposal. . . .[P]lans should contain competitive entry-level salaries . . . career ladder opportunities for all teachers . . . adequate evaluation processes and allowances for adaptations at the local level.**

Albert Shanker, of the American Federation of Teachers, has said that his organization would consider a plan if "evaluations were made by someone the teachers have confidence in," if the plan does not "establish a super salary schedule but [leaves] the majority of the teachers at a low-salary level" and "if the plan helps the school perform better." The American Association of School Administrators (AASA) has given qualified support, voicing some of the same concerns as the NEA, the National Association of Elementary School Principals (NAESP) has said, "Merit pay plans do not work because of the many inequities and difficulties encountered in establishing, implementing and maintaining meaningful measurable criteria." Recently, however, the NAESP, the AASA and the National Association of Secondary School Principals have recommended that states and school districts experiment with teacher incentives.

District Plans

Despite changing attitudes toward the single salary schedule, very few school districts have experimented with alternatives to it. According to the Educational Research Services (ERS), which surveyed merit pay plans in 1977 and 1983, fewer than 100 school districts in the United States currently include some type of reward for performance in their compensation packages.

ERS divides plans into five categories.

- **"Career ladders" associate salary levels with differentiated responsibility. Moving from one level to another requires a positive evaluation. Plans that have elements of career ladders are used in Los Angeles, California; and King William Co., Virginia.**
- **A second category of plans may have two or three separate salary schedules. Teachers move to schedules with greater rewards as a result of positive performance evaluations. These plans are used in Wayne, Pennsylvania; and West Newbury, Massachusetts.**
- **Traditional "merit pay" plans award single payments for excellent classroom performance; some plans also consider community service, additional degrees and professional activities. Decisions about rewards are based on annual evaluations. Examples include Ladue, Missouri; Clayton, Missouri; and Linn-Mar, Iowa; Bryan, Texas.**
- **A fourth type of plan is the extended contract: teachers evaluated as excellent are given contracts of one or two months after the regular teaching year so they can work on curriculum, inservice, etc. Examples are Weber, Utah, and Cherry Creek, Colorado.**
- **Some plans attend to district personnel needs. Examples are Houston, Texas, which rewards teachers in areas of critical shortages by giving them higher salaries, and Wyanet, Illinois, which rewards teachers for additional school work not required in their contracts.**

Although some plans have been in place for a number of years, the median year of adoption was 1976. The average percentage of teachers in these plans who received awards in 1983 was 26% (with a low of zero and a high of 100%). Awards to individuals ranged from a low of $38 to a high of $6,000, with an average of $1,064. Uses of the money ranged from sending teachers to professional conferences to having them work on extended-year contracts. Some awards came in the form of cash bonuses, others in the form of advancement on the salary schedule.

Criteria for rewards vary significantly. Most plans use what ERS refers to as "input data" on personal characteristics such as degrees held, classes or workshops attended, knowledge of subject, teaching techniques utilized and ability to work with people. Used less frequently are "output data" such as student attendance, number of discipline problems and student test scores.

The award amount is most often specified in advance for each teacher selected. In some cases, evaluators recommend the award amount; two districts divide money available equally among the teachers who qualify.

The districts reported the benefits of their plans to be compensation and recognition of outstanding teachers, better teacher motivation, greater teacher retention and fewer teacher absences. Most frequently cited as reasons for success were ample involvement of teachers in planning and evaluation, development of a comprehensive evaluation process, attention to advance planning and adequate funds. Major problems reported were lack of reliable evaluation systems, morale problems among teachers not rewarded, insufficient funds for awards and administrative problems (e.g., overly restrictive cutoff points).

EXCELLENT WORK

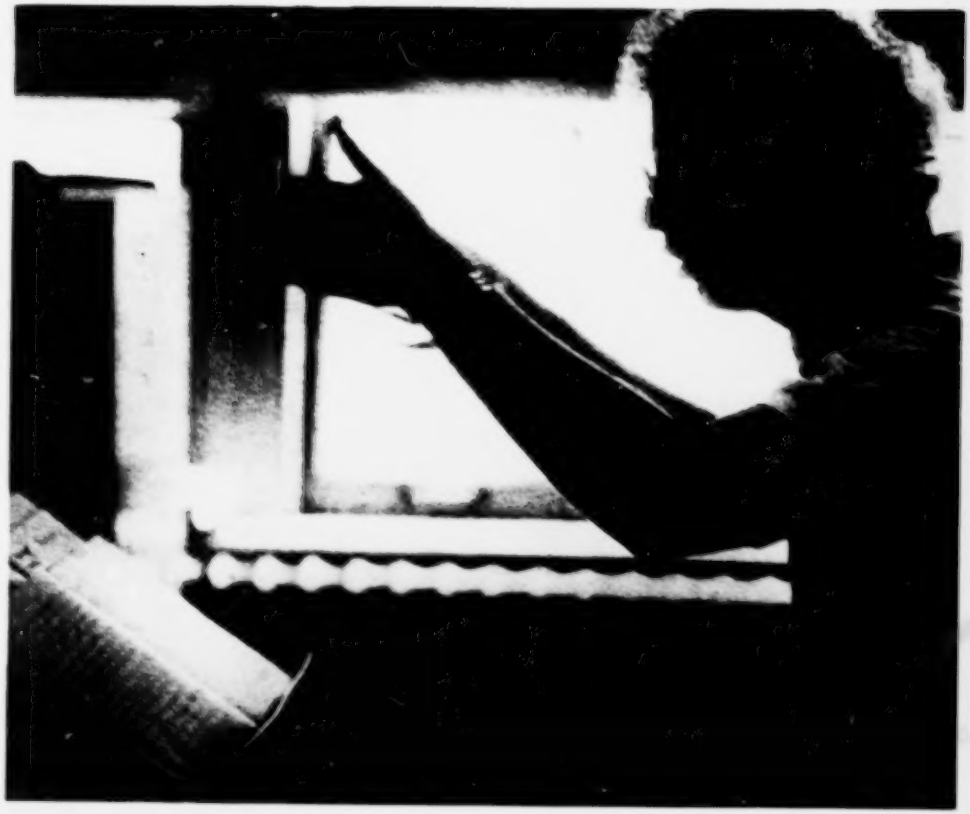
State Plans

States are also beginning to look at reward-for-performance plans. Four states (California, Florida, Illinois and Tennessee) have enacted legislation to create statewide reward-for-performance systems. Three states (Utah, Idaho and Arizona) have enacted legislation that encourages local districts to reward performance, and other states are considering similar measures.

The legislation in California, Florida and Tennessee calls for state-designed and funded programs in which all districts are encouraged to participate. California instituted its "mentor teacher" program in 1983. Up to 5% of the teachers in a district can be selected as mentors, who serve for three years and receive additional stipends of $4,000 per year. Their responsibilities include curriculum development, staff development and supervision of beginning teachers. The Florida State Department of Education is to modify a rudimentary merit pay/career ladder incentive program passed by the legislature in 1983; the resulting programs are to be implemented during the 1984–85 school year. The legislation calls for voluntary merit pay plans developed by districts and a statewide career ladder program that relates compensation to education, experience and performance. The state has appropriated funds to support these initiatives. Tennessee adopted its career ladder program in early 1984. There are five steps in the career ladder, from the entry-level "probationary teacher" to a "career level III" teacher, with pay supplements in the top steps ranging from $1,000 to $7,000. Pay supplements for apprentice teachers are to encourage recent graduates to become teachers. The new plan is statewide, but teachers have the option not to participate. Tennessee has also raised salaries by 10% for all teachers in the state.

The legislation in Utah lets local districts design their own incentive plans. It outlines the general criteria for local plans (e.g., evaluation systems, relationship to collective bargaining agreements, eligible personnel, types of rewards for which state funds can be spent, etc.). Career ladder programs may include additional pay for additional responsibilities during the school year, an extended contract for summer responsibilities, or both. The legislation authorizes $15.2 million in state funds for districts implementing a performance pay plan.

2. COST FACTORS



Most school districts budget a fixed amount for awards to meritorious teachers. Most states that have recently passed reward-for-performance legislation have appropriated specific amounts. In one sense, then, the cost of reward-for-performance plans is determined largely by the resources available to implement them. But in another sense, three interrelated factors — the number (and often the characteristics) of teachers participating, the extensiveness of the evaluation process used in assessing performance and the reward structure itself — combine to influence the costliness of rewarding performance. Planning is a cost factor that is independent of the specifics of the reward system itself.

Planning

The costs of planning a performance-based reward system are significant. A district needs either to assign staff to develop a plan or to hire consultants, or both. Teachers, administrators, parents and board members should all have input into the plan. Often public discussions will be held. The plan will no doubt be revised — possibly several times — before the final form. The plan must be publicized. Teachers and administrators who will live with the plan must be thoroughly familiarized with it, the procedures and what is expected of them. Districts should also evaluate and revise the plan and its components periodically as they learn from experience or set new goals.

The authors have not simulated costs of planning and evaluating the entire performance reward system because of the extreme variability in state and local procedures and the many options available. However, readers should keep in mind that properly planning and evaluating systems requires money, time and much care. Even a system planned by the state will impose costs on local districts to prepare for and implement it.

Participation Criteria

Since a key determinant of costs is the number of teachers participating in a reward-for-performance program, the issue of eligibility raises several interesting questions.

One question is whether participation should be mandated or voluntary. Mandating that every teacher participate raises costs, since every teacher must be evaluated. It also changes the rules of employment for teachers already in the system, leading potentially to morale problems and lost productivity. Letting teachers choose to participate reduces the potential for morale problems, but it also reduces a district's leverage in using incentives to improve teacher performance. Moreover, when a district does not know how many teachers will participate from one year to the next, predicting costs is difficult.

Another question is how many teachers should receive rewards. One approach is to reward all teachers who demonstrate excellence. This should increase teachers' willingness to participate, since all "good" teachers have an equal chance of being recognized. This can also be very expensive, however, particularly in the absence of well-developed criteria for linking rewards to performance. Another approach is to set quotas. This makes predicting and controlling costs easier, but it may also make a program less effective if not all good teachers receive awards.

Rewarding all teachers who meet high standards for performance may motivate many teachers to improve; restricting rewards to a few "outstanding" teachers might discourage many good teachers who are never recognized. Thus, limited rewards can impose a "cost" of teacher dissatisfaction without yielding the benefit of widespread improvement in teaching. Since all school districts ultimately face resource constraints, the choice of rewarding all qualifying participants or using quotas represents a trade-off among the number of rewards, the reward amounts and the expected results of the program.

As the focus shifts from strict compensation plans (merit pay, bonuses, sabbaticals) to plans designed to influence responsibilities and career options (career ladders, part-time and joint appointments, extended contracts), the participation questions become more complex and the cost implications more acute. For example, how quickly teachers are allowed to progress from one level of a career ladder to another significantly influences costs. Shorter performance periods can increase the frequency of evaluations and thus raise costs. More important, they accelerate the rate at which teachers can increase their earnings over and above the regular salary schedule. Longer performance periods spread out the costs of evaluations and rewards, making them more predictable and thus easier to plan for. Districts have more time to adapt organizationally to new rules and responsibilities. The real question is: how long is long, or how short is short? Decisions should not be driven exclusively by cost considerations, nor should these considerations be absent.

Evaluation Procedures

According to the 1983 Education Research Service study, evaluation poses the biggest problems for districts (e.g., teacher disagreement with the results, lack of objective criteria). Districts found it difficult to determine which teachers deserved extra pay, to gather enough data to support evaluations, to avoid inconsistency among evaluators, to devise a satisfactory evaluation instrument and to rate teachers impartially. Clearly, the costs of evaluation should not be underestimated. Evaluation costs of three types should be calculated: start-up costs (the costs of planning, instrument development and training of evaluators), operational costs (the costs of actually evaluating teachers) and administrative costs.

Start-Up Costs

Unless a school district already has an adequate evaluation process in place, it will incur a number of "front-end" costs. Most important are the costs of developing observation instruments and training

evaluators. For instance, if a district decides to use student test scores to assess teacher performance and an acceptable standardized test is not available, the costs of developing the test and training evaluators to interpret results could be substantial. At the secondary level, these costs are even higher, since tests must cover all teachers in all fields. If observer ratings are used, specialized training for principals and other observers could be expensive. Such training is likely to be needed to ensure some degree of inter-rater reliability for a given evaluation instrument.

Operational Costs

Evaluation methods influence operational costs. If test scores are used, scoring and analyzing test results teacher by teacher can consume substantial resources, particularly if a district has no research staff. If evaluation is by administrator/peer review, the time spent observing teachers in classrooms is the major cost factor. An often-discussed method uses a team of three people: a teacher, an administrator and an outside person (e.g., a university professor, a consultant or a parent). Paying substitutes for the time that teachers spend being evaluators is one cost. Compensating consultants, university staff and parents is another. All of these costs increase as evaluations per candidate per evaluation period increase.

Costs of Administration

Administrative costs are less substantial than start-up or operational costs. If an evaluation system includes an appeals process, one cost is the amount of money paid to teachers, administrators and others for sitting on appeals boards. Another is the cost of preparing reports for a school board or other entity that requires data on the candidates, the evaluation process and the reward system. Other costs would include candidates' time for preparing materials related to their evaluations, and the time central office personnel spend serving on evaluation teams.

Reward Structures

The structure of a reward-for-performance plan affects its cost. To illustrate this point, three structures are described below.

Merit Pay

The most popular structure has been merit pay in one form or another. School districts identify superior teachers, who receive an award in a given year. Merit pay in its purest form is a bonus, the reward does not change a teacher's position on the salary schedule or compensation in future years. Primary costs are the size of the bonus and the number of teachers receiving bonuses. There is generally no difference between the short- and long-term costs of merit pay except when bonus amounts are modified as a matter of policy. However, numerous local plans (Ladue, Missouri; Lake Forest, Vermont; Evanston, Illinois) make a merit increase part of a teacher's base salary. In this case, the district's aggregate salary expense rises as it places teachers higher on the schedule. If merit pay becomes part of teachers' base salaries, it will raise retirement costs as well. If merit pay is treated as a bonus on top of salary, with no implications for future salary, it probably will not affect retirement costs.

Career Ladders

A career ladder allows teachers to progress through three or four levels, from probationary teacher or apprentice to senior teacher and master teacher. The purpose is to tie recognition and responsibilities to accelerated advances in salary.

The factors driving costs include:

- **Number of steps on the career ladder**
- **Size of awards at each step**
- **Length of time required to move from one step to another**

In general, the greater the number of steps, the larger the awards and the shorter the time required to move from one step to another, the greater the cost of a career ladder.

Types of awards also influence the cost of career ladders. One type is an increment to salary that remains fixed as long as a teacher remains at a particular career ladder level. That is, the career ladder award supplements the single salary schedule but does not replace what a teacher otherwise earns on the basis of experience and education. The career ladder or mentor teacher plans being developed in California, Florida and Tennessee treat the award this way. A potential problem with this approach is that the value of an award to the teacher decreases year by year, relative to advancement on the salary schedule and to changes in the schedule.

Another type of award maintains its absolute value because it is adjusted for inflation or the bargained percentage increase in regular salaries is added to it. In this case, teachers can look forward to increases in income over time. An obvious shortcoming is that this type of award increases a district's long-term costs. However, unless the rewards for moving from one career level to another are substantial (e.g., $2,000 or greater), teachers may opt not to participate. Generally, increases due to career ladder steps will be taken into account in calculating retirement benefits.

Extended Contract

Under this plan, teachers judged meritorious are hired for one to three additional months during the summer to work on special projects. Basic costs of the simplest extended-contract plans are the number of teachers participating and their annual salaries. An important issue is whether the teachers whose contracts are extended should be paid at their regular rate or at different rates based on the nature of their work. When distinctions are made in responsibilities and then linked to compensation, the extended contract plan becomes like a career ladder, and the factors that influence cost expand accordingly.

3. COST SIMULATIONS

Districts seriously considering reward-for-performance plans should not only understand the factors that influence costs but also estimate costs realistically. Multiplying the projected numbers of reward recipients by projected reward amounts produces a basic estimate. (Where rewards are differentiated, costs must be calculated for each category of recipient.) To this estimate must be added costs of evaluations (instrument development, staff training, etc.). Ideally, both short- and long-run costs, including planning and evaluating the program, should be estimated.

Simulated below are the costs of three reward-for-performance plans — merit pay, career ladder and extended contract. These simulations are based on specific assumptions about participation, evaluation procedures and the reward structure. Output for each simulation includes estimates of total costs of rewards, per-pupil costs and costs as a percentage of total district salary expense. The costs of two types of evaluation are simulated separately, then added to the costs of rewards. No effort is made to suggest a particular type of evaluation for a particular reward-for-performance plan.

The simulations use data from an actual school district. Listed below is most of the data needed to estimate the cost of reward-for-performance plans.

■ Total number of teachers	1,100
■ Total number of students	18,272
■ Total number of administrators	95
■ Average teacher salary	$21,000
■ Average administrator salary	$33,128
■ Total teacher salary expense	$22,785,000
■ Total administrator salary expense	$3,147,160
■ Number of contract days	180
■ Fringe benefits	20%
■ Daily rate for substitute teachers	$75

Evaluation Processes

Before the total costs of rewarding teachers for performance can be computed, choices have to be made about how teachers will be evaluated. Two possible choices are described below and their costs simulated.

Evaluation Process "A"

Process A is representative of the process used by many school districts that have experimented with some type of reward-for-performance system. It is assumed that teachers set individual performance objectives at the beginning of the school year and agree on these objectives with their supervisors. During the year, supervisors observe teachers in the classroom and review these observations with teachers. At the end of the year, supervisors rate teachers and discuss these ratings with teachers individually. A final performance appraisal agreed to by supervisor and teacher becomes the basis for a merit award or for the next year's performance objectives.

It is further assumed that the time teachers spend setting performance objectives, reviewing objectives with supervisors and meeting with supervisors (after classroom observations and again at year's end) amounts to two additional days for which they must be compensated. Moreover, since teachers

participating in the evaluation process will spend some time out of the classroom, it is assumed that a substitute teacher will be hired for approximately one-half day per teacher evaluated.

No. of Teachers, Evaluation Days	Daily Rate (Includes Benefits)	
2,200 (1,100 teachers x 2 days)	x $139 =	$305,800

No. of Substitute Teacher Days	Daily Rate for Substitutes	
550	x $ 75 =	$ 41,250
	Total evaluation cost "A"	$347,050

Process A includes no evaluation training for teachers or administrators, although some central-office time is assumed for designing a format for performance objectives. It is also assumed that administrators will meet with staff to explain the reward-for-performance plan. No additional costs for these activities are computed, since it is assumed that they are added to the existing administrative load and take substantially less time once an evaluation program becomes operational.

Demands on the time of administrators will be substantial. For simplicity's sake, it is assumed that schools are already evaluating teachers on this schedule. To the extent that these evaluations represent an increase over current practice, additional administrative staff will be required. Classroom observations, limited to two per teacher, are not expected to consume more than two hours at a time. Administrators are expected to spread observations and supervisor/teacher conferences over the school year to eliminate bottlenecks caused by the relatively high ratio of teachers to administrators.

Thus, the cost of evaluation under Process A is the cost of additional teacher days plus the cost of substitute teachers, or approximately $347,050.

Evaluation Process "B"

Process B assumes evaluation of teachers by their peers as well as by administrators. It is assumed that consultants (e.g., university professors) will join teachers and administrators on evaluation teams and that administrators and teachers will require some initial training in evaluation procedures. Evaluations will consist of classroom observations and conferences with teachers. Given the number of teachers to be evaluated (1,100), the time required for each teacher evaluation (about one-half day) and the number of evaluations per teacher (at least two), a minimum of 10 evaluation teams working full time is required.

If 10 teachers serve on evaluation teams full time, the district will have to hire additional teachers. It will also have to hire additional administrative staff, since 10 administrators serve on evaluation teams. Hiring 10 consultants represents a third cost.

NEAT WORK

No. of Team Members	Daily Rate	No. of Contract Days*	Benefits	Total Cost
10 teachers	$116	180	20	$250,560
10 administrators	184	200	20	441,600
10 consultants	150	120	---	180,000
				$872,160

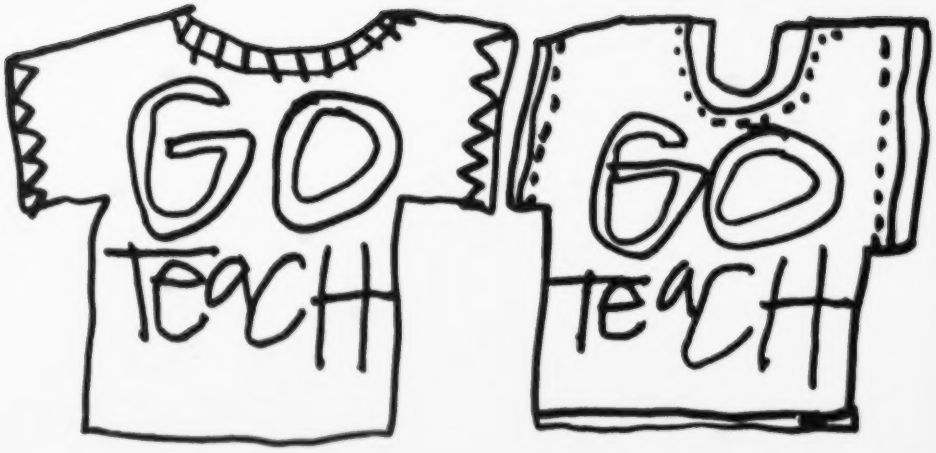
*Excluding vacation days, holidays and the first two and last two weeks of the school year, there are probably 120 actual days available for evaluating teachers.

It is assumed that teacher-team conferences occur during the school day and substitutes will consequently be required. Each meeting will probably take one hour, which means a total of two hours per teacher evaluated.

No. of Substitute Teacher Days		Daily Rate	Total Cost
275	x	$75	$20,625

The costs of evaluation teams and substitute teachers, then, accounts for most of the operational costs of Process B. But costs of training staff and developing evaluation instruments are nonetheless substantial. It is assumed that this district will contract with a university to train 10 evaluation teams in a two-week seminar. The university charges the district $15,000 to cover the expenses of two full time-equivalent faculty for 10 days of instruction plus materials and $30,000 to design an evaluation process and evaluation instruments. The training seminars are held during the summer. Team members must be compensated for their training time, at a cost of $50,900.

No. of Team Training Days	Daily Rate (Includes Benefits)	Total Cost
100	$139 (teachers)	$13,900
100	220 (administrators)	22,000
100	150 (consultants)	15,000
		$50,900



The total cost of evaluation under Process B for Year One would be as follows:

Start-Up Costs

Evaluation design	$30,000
Evaluation team training (university staff)	15,000
Evaluation team training (district staff)	50,900
	$95,900

Operational Costs

Hiring of additional teachers, administrators and consultants	$872,160
Hiring of substitute teachers	20,625
	$892,785
Year One Total	$988,685

Long-Term Evaluation Costs

The general assumption is that as an evaluation process becomes institutionalized, its cost diminishes. In Process B, the $30,000 cost of evaluation design occurs only once, and the cost of training evaluation teams should diminish after the first year. The major recurring expense will be the cost of training new evaluation team members, assuming that some teachers and administrators return to their original duties. But recurrent training costs can be expected to be less than the initial $66,000 investment for two reasons. First, it is unlikely that an entirely new corps of team members will ever have to be trained. Second, training costs could be partially subsidized by the reward structure itself, if training new evaluators became part of the regular duties of senior teachers.

The costs of operation may or may not diminish with time. Under reward-for-performance plans that link additional pay to additional responsibilities (e.g., career ladders, extended contracts), evaluation costs might drop considerably as evaluations become the responsibility of master teachers and costs become part of regular salary expense. Under traditional bonus plans (e.g., merit pay), evaluation costs would remain distinct from salaries. If, for example, Process B were used with a merit pay plan, teachers would not assume responsibility for evaluating other teachers as a normal part of a career ladder. Therefore, the district would need to employ additional teachers to replace those

serving on evaluation teams, and the cost of evaluation would rise with the regular salary increases.

Merit Pay Model

Under the merit pay model, teachers receive a one-time bonus that does not affect base salary. It is assumed that teachers rated as "excellent" receive a $2,000 bonus at year's end and that teachers rated as "outstanding" receive a $4,000 bonus. It is further assumed that 60% of all teachers will receive rewards, half of them rated as excellent and half as outstanding. The authors have chosen 60% in keeping with the philosophy that rewards must be within the grasp of many in order to act as meaningful incentives. Of course, a district or state can choose whatever number suits its purpose.

Type of Rating	Number of Teachers	Size of Award	Total Cost
Excellent	330	$2,000	$ 660,000
Outstanding	330	4,000	1,320,000
			$1,980,000

If evaluation Process A is chosen, the total cost of the plan is $2.3 million, which represents about 9% of district salary expense for teachers and administrators or about $127 per pupil. If evaluation Process B is selected, the cost of the plan increases to almost $3 million. This represents about 11.4% of salary expense or about $162 per pupil.

Table 1
MERIT PAY MODEL

Cost of Rewards	Evaluation Component	Total Cost	Cost Per Pupil	Percent of Salaries
$1,980,000	$347,050 (A)	$2,327,050	$127	9
1,980,000	988,685 (B)	2,968,685	162	11

Career Ladder Model

Under the career ladder model teachers rated as superior are allowed to progress to senior or master teacher status. Increments in pay of $2,000 for senior teachers and $4,000 for master teachers become part of base salary. Since this increases payroll costs over time, the district phases the program in over three years to smooth out costs. Quotas are established for the number of teachers eligible to become senior and master teachers in each of the three years. In Year One, 10% of all teachers may become senior teachers and 10% may become master teachers. The number of eligible teachers increases by 20% each year until Year Three when 60% of all teachers are eligible. At no time may more than 30% of the total teaching staff be senior teachers, nor may more than 30% be master teachers.

In Year One, the cost of rewards under the plan is $660,000 or 2.5% of teacher and administrator salaries.

Number of Teachers	Amount of Reward	Reward Cost
110 senior	$2,000	$220,000
110 master	4,000	440,000
		$660,000

To salary costs must be added evaluation costs. In the interests of simplicity and comparability, we are assuming that all teachers will be evaluated every year, using either Process A or B. Actually, of course, how many teachers are evaluated and how often are local decisions. Some career ladder proposals award positions for fixed terms (three or five years) and require evaluation only at the end of the term. Other proposals award positions indefinitely, which makes frequency of evaluation an independent issue. If evaluations are used formatively, to help teachers improve their performance, annual evaluations of all teachers may be appropriate.

If evaluation Process A is selected, the total cost of the plan is $1,007,050, 3.9% of teacher plus administrative salaries or $55 per pupil. If evaluation Process B is selected, total cost increases to $1,648,685, 6.5% of total payroll or $90 per pupil.

In the second year, when an additional 220 teachers become eligible for rewards, the cost of rewards increases to $1,353,000 ($660,000 in first-time rewards plus the total of prior-year rewards inflated by 5%). When evaluation costs are included, total costs increase to between $1.7 and $2.2 million, depending on which evaluation process is selected. Evaluation costs under Process A are higher in Year Two and subsequent years, because it is assumed that base salaries for all teachers and substitutes increase by 5% each year. Evaluation costs under Process B decrease in Year Two, since most of the start-up costs of evaluation design and staff training drop out.

By Year Three, 660 teachers have become either senior teachers or master teachers. Total reward costs equal $2.1 million ($660,000 in first-time rewards plus the inflated values for prior-year rewards.) The evaluation component increases the cost of the plan to between $2.5 and $3.1 million, depending on which evaluation process is selected.

Table 2 shows the changes in per-pupil costs and costs as a percentage of teacher/administrator salaries over the three-year phase-in period.

The reader is cautioned that these figures are based on a number of simplifying assumptions. One such assumption is that regular salaries increase by 5% in each of three years. Another is that neither enrollment or the total number of teachers employed (and evaluated) by the district changes. A third is that reward amounts do not change over the three-year period. In reality, it is unlikely that all three assumptions would hold. It is also important to note that the costs of retirement and other benefits will increase, since the rewards teachers receive are folded into the base salaries of teachers. Exactly how much the cost of benefits will rise depends on the structure of the benefits package, an issue not dealt with here.

Table 2
CAREER LADDER MODEL

Year	Cost of Rewards	Evaluation Component		Total Cost	Cost/Pupil[1]	% of Salaries
Year 1	$ 660,000	$347,050		$1,007,050	$ 55	3.9
	660,000		$988,685	1,648,685	90	6.5
Year 2	1,353,000	364,403[1]		1,717,403	94	6.3
	1,353,000		874,474[1]	2,227,474	122	8.2
Year 3	2,080,650	382,623[2]		2,463,273	134	8.6
	2,080,650		989,808[2]	3,070,458	168	10.7

[1]Assumes 5% increase in salaries for teachers and administrators and 50% reduction in costs of training evaluators. The $30,000 cost of evaluation design also drops out.
[2]Assumes 5% increase in salaries. For Process B, all start-up costs drop out.

Extended Contracts

Extended contract programs are like career ladder programs in that extra pay brings extra responsibilities. A district determines which teachers will receive extended contracts, based on their evaluations, what activities they will undertake during the extended period and how much money they will receive for that period. It is assumed here that the contracts of 10% of all teachers will be extended by one or three months during the summer. Award amounts are based on the average daily rate for all teachers.

The total cost of the plan increases to between $ 876 and $1.52 million, depending on the evaluation process selected. Again, it is assumed that all teachers will be evaluated even though only 10% of them will receive rewards. Per-pupil costs range from $48 to $83, and costs as a percentage of teacher and administrator salaries range from 3.4% to 5.9%.

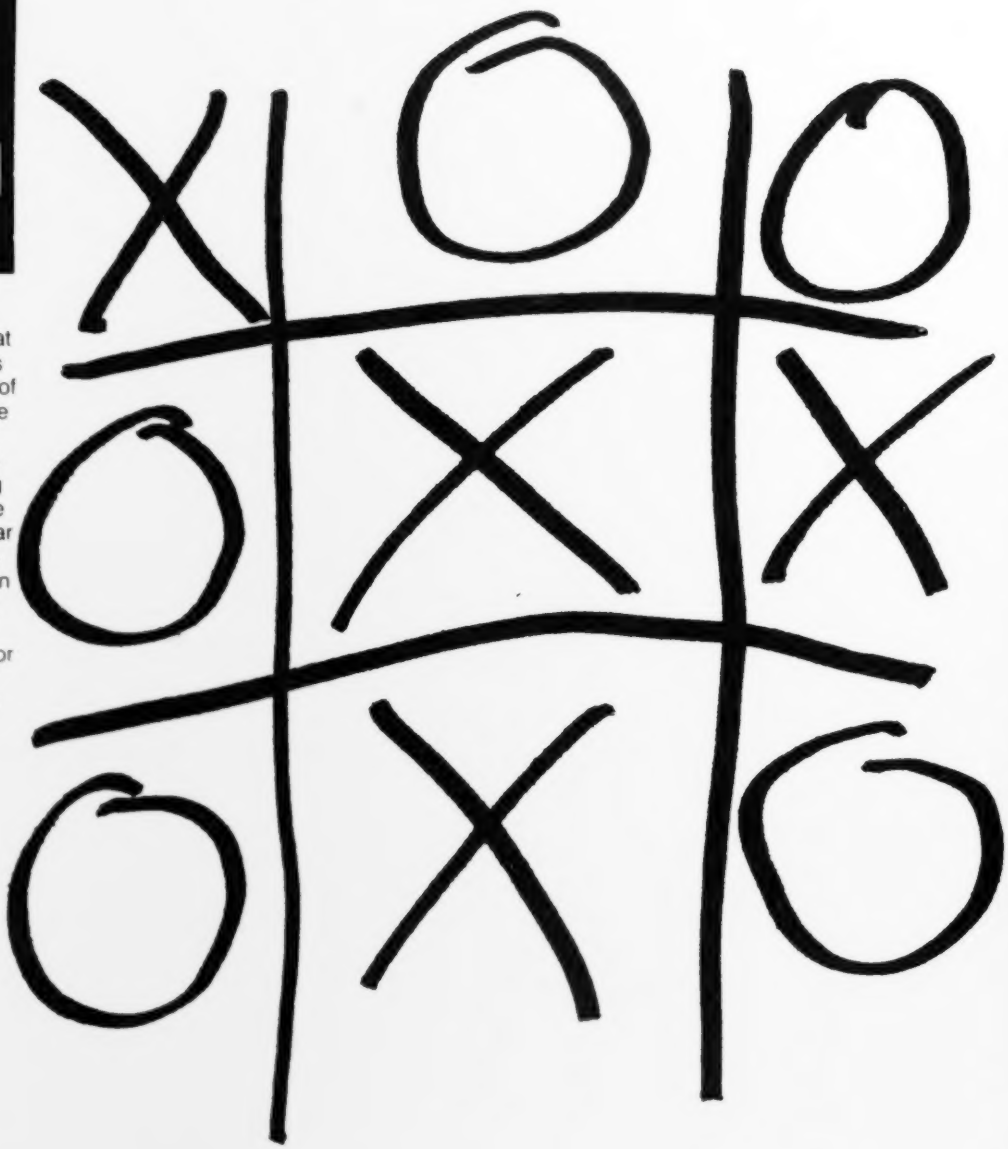
Table 3
EXTENDED CONTRACT MODEL

Activity/No. of Teachers		Contract Period	Reward Amount	Reward Costs
Textbook review	60	1 month (20 days)	$2,784	$167,040
Staff training in teacher evaluation	10	1 month	2,784	27,840
Effective schools planning/training	40	3 months	8,352	334,080
	110			$528,960

82

4. CONCLUDING REMARKS

It cannot be stressed enough that reward structures and evaluation processes may vary widely and so may combinations of structures and evaluations. For example, the extended contract model described above could be modified until it is hardly distinguishable from a career ladder model. Outstanding teachers could be paid more for working more hours per day during the regular school year to advise students, provide remedial assistance, develop instructional materials or to train and evaluate other teachers. Moreover, the amount of the reward could vary with the activities. All teachers could be evaluated, or only teachers who apply for extended contracts. Extended contract periods could run from one month to several years.



Contrary to some speculation, reward-for-performance plans need not be prohibitively expensive; none of the costs simulated here exceed 12% of total payroll costs and most are lower. Such costs are not far beyond annual increments common in school salaries. States and school districts should therefore look at where they can get the most benefit from their expenditures.

Much of the cost depends on how plans are designed. For instance, regardless of the reward structure selected, switching from evaluation Process A to B greatly increased total costs. In some instances, the cost of evaluation exceeded the cost of rewards. (There is nothing inherently wrong with such an outcome, say people who argue that evaluating teachers regularly may be the single most important component of reward-for-performance plans.) Clearly, though, the costs of evaluating teachers should not be taken lightly. District policy makers should examine the pros and cons of alternative evaluation processes carefully, recognizing that there is no one best way to evaluate teachers. The goal is a process that is effective but not so expensive it prevents a district from appropriately rewarding superior performance.

The cost implications of combining a reward structure with an evaluation process are important to recognize. For example, when evaluation Process A is selected, the career ladder model in Year Three is identical to merit pay in terms of the level of rewards and the numbers of teachers receiving them. Yet the career ladder model is $7 more expensive per pupil ($134 to $127). In the aggregate, this amounts to about $136,000. (Note that $136,000 will buy nearly 50 microcomputers at today's prices.) Since career ladder rewards become part of base salaries, the gap in costs will widen over time.

The possible combinations of rewards and evaluation procedures are almost endless. What probably makes the most sense is to determine which mix best meets the needs of the district and adjust the total plan to resource constraints. For instance, the career ladder model used above assumed a three-year phase-in to smooth out costs. Making fewer teachers eligible for senior and master teacher status would save money. So would choosing not to evaluate every teacher every year. The number of evaluations per teacher and the amounts of money awarded are other variables that influence total costs.

The benefits of reward-for-performance plans must be set against the costs. Improved teaching, better morale, retention of good teachers and attraction of talented people to the field are possible outcomes. Good formative evaluations alone can do much to improve the quality of teaching. Real cost savings may be achieved from reduced turnover of teachers with less need to hire and train replacements. Each district must weigh these possibilities in considering whether to adopt a plan and in subsequent evaluation of the plan.

How well performance-reward plans serve their purpose depends in part on their fiscal viability. It is hoped that the foregoing analysis of costs offers some guidance to district policy makers seriously considering rewarding teachers for performance.

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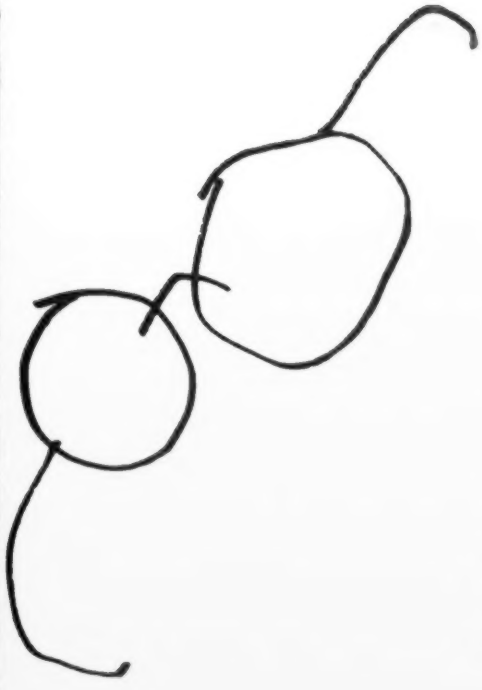

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4. Political Myths About Reforming Teaching by Susan J. Rosenholtz, Vanderbilt University (TQ84-4)

Ten common beliefs about how performance-based pay and promotions will help improve teaching are backed up against research findings in this book, and the author concludes that, essentially, they don't hold up. Although low pay discourages the academically able from entering or remaining in teaching, the author presents research that shows teachers to be more frustrated by their lack of success with students.

5. How States Can Improve Teacher Quality by Robert Palaich, Education Commission of the States (TQ84-5)

Local efforts to improve teacher quality can be initiated and/or bolstered by state actions, and Palaich offers a logical cumulative strategy for these actions. He covers screening for admission to schools of education, improving curriculum, graduation requirements, certification and tenure.

6. The Legal Context for Teacher Improvement by the Law and Education Center, Education Commission of the States (TQ84-6)

In an effort to pre-inform policy makers and administrators contemplating teacher improvement plans, ECS Law Center staff explain the legal aspects that may affect these plans, and discuss how to tailor plans to comply with constitutional and statutory requirements. Due process, civil rights, free speech, academic freedom, tenure, collective bargaining and governance issues are covered.

7. Evaluating Teacher Incentive Systems by Steven M. Jung, American Institutes for Research (TQ84-7)

Jung develops a conceptual framework for evaluating teacher-incentive systems. A performance-based system, he says, bases rewards on behavior rather than on added responsibilities, and stated goals must mesh with goals in practice, if evaluations are to be valid. Jung also examines assumptions about teaching excellence and the process components of incentive systems.

8. School Organization and the Rewards of Teaching by Tom Bird, Center for Action Research, Boulder, Colorado (TQ84-8)

Bird focuses on how to organize schools and school settings to encourage better teaching. He describes organizational schemes that encourage staff to share understandings and techniques, help each other to improve and use research findings to test new methods. He suggests that teachers and administrators be trained as role models, and recommends that experimental research applications be supported at the state level.

9. The Costs of Performance Pay Systems by Kent McGuire, Education Commission of the States, and John A. Thompson, University of Hawaii (TQ84-9)

Using two different evaluation schemes, the authors simulate the costs of merit pay, career ladders and extended contracts to show how costs — none of them prohibitive — vary with plan design. They precede the simulations with a thorough discussion of each cost factor involved.

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27